Oct. 3, 1961 D. SILBERMAN 3,002,477

SEWING MACHINE PRESSER FOOT

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Fig. 1

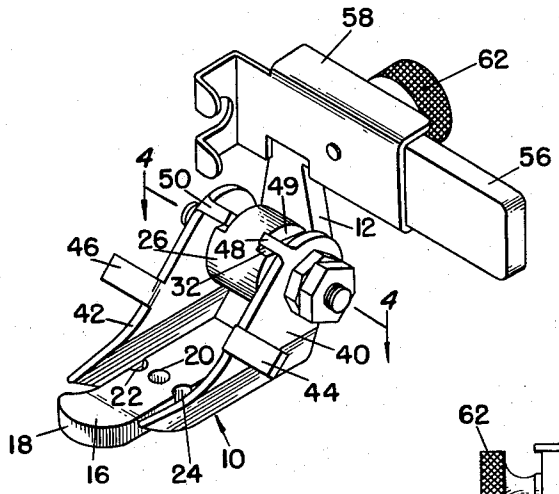


Fig. 2

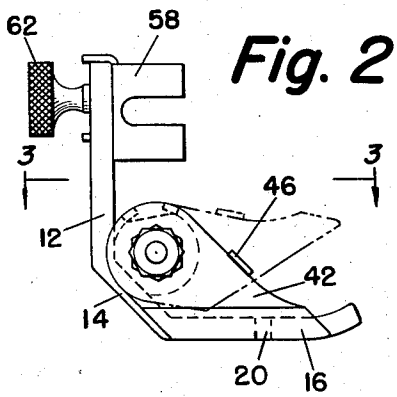


Fig. 3

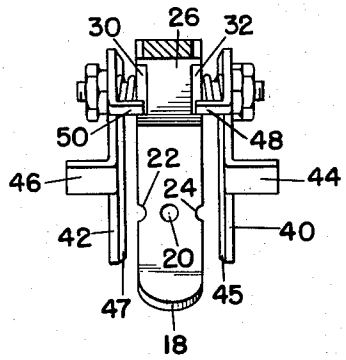
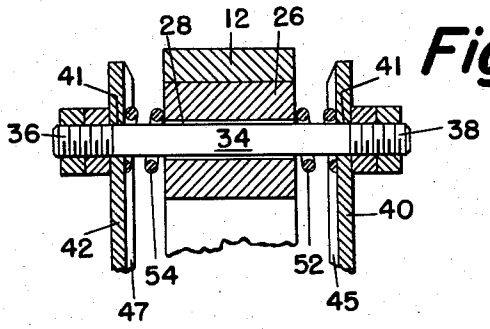


Fig. 4



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Fig. 5

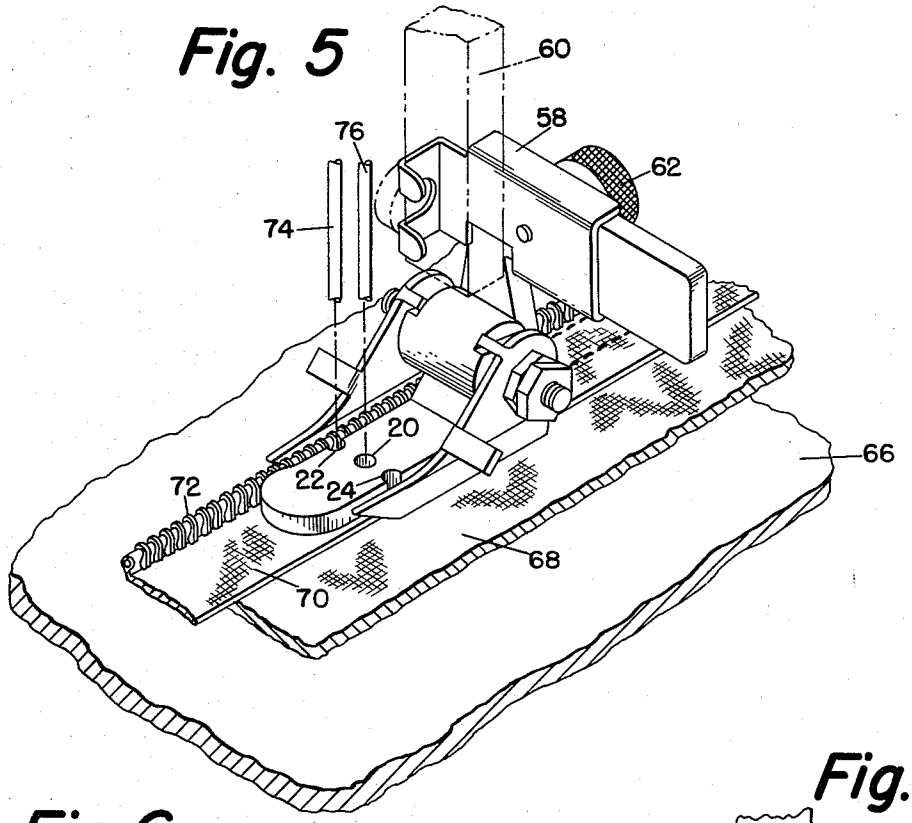


Fig. 6

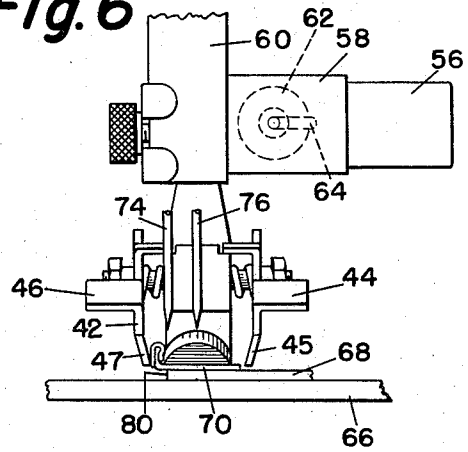
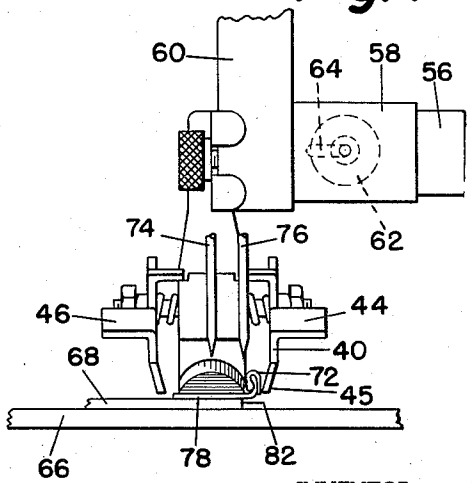


Fig. 7



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SEWING MACHINE PRESSER FOOT

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3 Claims. (Cl. 112—235)

The present invention is directed to a sewing machine presser foot, and more particularly to a sewing machine presser foot having a pair of gauge bars which may be readily pivoted from a position in which the gauge bars are juxtaposed to the instep of the presser foot to a position in which the gauge bars are above the instep of the presser foot.

It is an object of this invention to provide a novel sewing machine presser foot.

It is an object of this invention to provide a novel sewing machine presser foot adapted for sewing concealed slide fasteners.

It is another object of this invention to provide a novel sewing machine presser foot adapted for sewing concealed slide fasteners on a plurality of tapes without the necessity of turning the presser foot or the slide fastener tapes around end-on-end when going from one slide fastener tape to another.

Other objects will appear hereinafter.

For the purpose of illustrating the invention there is shown in the drawings a form which is presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

FIGURE 1 is a perspective view of applicant's novel presser foot.

FIGURE 2 is an end view of applicant's presser foot.

FIGURE 3 is a partly cross-sectional view taken along lines 3—3 of FIGURE 2.

FIGURE 4 is a cross-sectional view taken along lines 4—4 of FIGURE 1.

FIGURE 5 is a perspective view of applicant's novel presser foot showing the manner in which it is to be used.

FIGURE 6 is a front view of applicant's novel presser foot showing the manner in which it is to be used.

FIGURE 7 is a front view of applicant's novel presser foot showing the manner in which it is to be used.

Referring now to the drawing in detail, where like numerals indicate like elements, there is shown in FIGURE 1 a perspective view of applicant's novel sewing machine presser foot.

The applicant's presser foot is designated by the numeral **10**. The presser foot includes an upstanding body portion **12** having an angled arm **14**. Attached to the free end of the arm **14** and perpendicular to the body portion **12**, there is provided a foot **16** having a rounded toe **18**. The foot **16** is provided with a plurality of aligned needle holes. The needle hole **20** is axially disposed intermediate the side portions of the foot **16**. The needle holes **22** and **24** are in the form of notches on the side portions of the foot **16**. It will be noticed that the needle holes **20**, **22**, and **24** form a straight line perpendicular to the axis of the foot **16**.

A cylinder **26** having an axial bore **28** is mounted on the angle arm **14** in any convenient manner such as soldering. It will be noted that the length of the cylinder **26** corresponds to the width of foot **16** and the base of body portion **12** (see FIGURE 4). A pin **34** having threaded ends **36** and **38** extends through the bore **28**. It will be noticed that the outer diameter of pin **34** is slightly smaller than the diameter of bore **28**. A pair of gauge bars **40** and **42** are provided, with gauge bar **40** being mounted on pin **34** on one side of the body portion **12**

and gauge bar **42** being mounted on pin **34** on the other side of body portion **12** (see FIGURE 4). Gauge bars **40** and **42** are provided with holes **41** which are of slightly larger diameter than the outer diameter of pin **34** so that said gauge bars may pivot with relation to said pin **34**. A spring **52** is provided intermediate the gauge bar **40** and the adjacent end face of cylinder **26** surrounding the pin **34**. A spring **54** is provided intermediate gauge bar **42** and the adjacent end face of cylinder **26** surrounding the pin **34**. A plurality of nuts are threaded onto the threaded ends **36** and **38** of pin **34** so as to maintain the elements in assembled relation.

Since the gauge bars **40** and **42** are provided with a hole **41** which is of larger diameter than the pin **34**, the gauge bars **40** and **42** may be pivoted in a plane parallel to the axis of the foot **16** to the position shown in phantom in FIGURE 2. The provision of a resilient means such as springs **52** and **54** enable the gauge bars **40** and **42** to be moved closer to the instep or side portion of the foot **16**.

It will be noted that the inner surface of each gauge bar is tapered as shown at **45** on gauge bar **40** and at **47** on gauge bar **42**. When the gauge bars **40** and **42** are in their lowermost position (see FIGURES 3 and 6), the gauge bars are in planes which are parallel to the planes of the insteps of the foot **16**. It will be noted that the tapered portions **45** and **47** are the closest portions to the insteps. At the ends of cylinder **26** on the upper peripheral surface thereof, shoulders **30** and **32** are provided. Shoulder **32** cooperates with inturned flange **48** on gauge bar **40** to limit the pivoting movement of gauge bar **40**. Shoulder **30** cooperates with inturned flange **50** on gauge bar **42** to limit the pivoting of gauge bar **42**. It will be noted that the innermost end of inturned flange **48**, for example, is spaced from surface **49** on cylinder **26** so that gauge bar **40** may be moved toward and away from foot **16**.

The body portion **12** tapers upwardly and is provided with an offset arm **56**. Mounted on the offset arm **56** is a conventional structure including slide **58** and thumbscrew **62** which releasably secure the presser foot to the sewing machine. It will be noted that the shank portion of the thumbscrew **62** extends through a slot **64** in the arm **56** so that the presser foot may be moved in a direction perpendicular to the sewing machine support **60**. The above structure which enables the presser foot to be moved in a direction perpendicular to the sewing machine support **60** is conventional and need not be described in detail.

As shown in FIGURES 5, 6, and 7, the applicant's novel presser foot is particularly adapted for sewing concealed slide fastener tapes to a fabric so that the slide fastener tape is concealed by the fabric and gives the impression of a sewn seam. The use of concealed slide fastener tapes has become increasingly popular in the textile industry. In order to have a concealed slide fastener tape, the line of stitching between the slide fastener tape and the adjacent fabric must be as close to the slide fastener elements **72** as possible. As the slide fastener tape **70** is sewed to the fabric **68** and moved along during the sewing process, the free end of the tape **70** flaps in the breeze caused by movement of the material. The flapping of the free end of tape **70** interferes with the operator of the sewing machine and pervents the sewing of a straight seam on a mass production basis. To eliminate this problem, a pair of needles **74** and **76** are utilized. Needle **74** cooperates with needle hole **22** to sew the slide fastener tape to the fabric **68** as close as possible to the line of slide fastener elements **72**. Needle **76** cooperates with needle hole **20** to sew the slide fastener tape **70** to the fabric **68**. As is well known in the art, the slide fastener tape is sewn to an inner ply of a fabric so that

the seams are not visible. Thus, it is to be expressly understood that fabric **68** represents the inner ply so that the seams sewn by needles **74** and **76** will be concealed.

The applicant's presser foot is utilized in the following manner:

The inner ply of a fabric **68** is placed on the needle plate **66** with one edge of the fabric being directly in line and underneath one instep of the foot **16**. As shown in FIGURE 6, the gauge bar **42** is pivoted upwardly by grasping the tab **46** and pivoting the gauge bar **42** about pin **34**. A slide fastener tape **70** is placed between the presser foot and the fabric **68** with the slide fastener elements engaged with the instep of the foot **16**. The gauge bar **42** is pivoted downwardly so that the slide fastener elements **72** are between the tapered portion **47** of the gauge bar **42** and the instep of foot **16**. Since needle **74** cooperates with hole **22** at the instep of foot **16**, the seam holding the tape **70** to the fabric **68** will be as close to the slide fastener elements **72** as possible. While needle **74** is sewing a seam adjacent to the fastener elements **72**, needle **76** will be sewing a seam which is located intermediate the fastener elements **72** and the free edge of the tape **70**. It will be noted that while the needle **74** is sewing a seam along the fastener elements **72**, the fastener elements are maintained in an upright position between the tapered portion **47** on the gauge bar **42** and the instep of the foot **16**.

As the needles **74** and **76** are sewing a seam, the tape **70** and fabric **68** are moved longitudinally away from the presser foot. When the entire tape has been traversed, it is not necessary to turn the presser foot or the tapes end-on-end before sewing the tape **78** to the fabric **68**.

In order to secure the tape **78** to an inner ply of the fabric **68**, it is only necessary to move the presser foot in a direction perpendicular to the sewing machine support **60** as shown in FIGURE 7. When the slide **58** has been moved to a position where the shank of the thumbscrew **62** is at one extremity of the slot **64**, the instep of the foot **16** will be directly above the leading edge of the inner ply of fabric **68**. Gauge bar **40** is pivoted about pin **34** by raising the tab **44**. The tape **78** is positioned between the sole of foot **16** and the inner ply of the fabric **68** with the fastener elements **72** in an upright position parallel to the instep of the foot **16**. The gauge bar **40** is then lowered and sewing of fastener tape **78** to the inner ply of fabric **68** may then be commenced.

It will be noted that needle **76** is now cooperating with needle hole **24** to sew a stitch as closely as possible to the fastener elements **72**. Needle **74** is now cooperating with needle hole **20** to sew a stitch which is intermediate the fastener elements **72** and the free edge of the tape **78**. As the sewing commences, the tape **78** and fabric **68** move in the opposite direction until the entire length of tape **78** has been traversed.

Since the gauge bars **40** and **42** can be moved closer to the foot **16**, it will be noted that different size fastener elements may be employed on the fastener tapes. Thus, the applicant's presser foot is versatile in the range of fastener elements which can be accommodated.

When the fabric **68** is utilized in a garment the mating leading edges **80** and **82** will cooperate to conceal the slide fastener. Since the tapes **70** and **78** are sewed to an inner ply of the fabric **68**, they will not be visible and the mating of leading edges **80** and **82** will give the impression of a sewn seam.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. A sewing machine presser foot comprising a body portion, a foot connected to said body portion, a cylinder connected to said body portion above said foot, a bore in said cylinder, a pin extending through said bore, a pair of gauge bars, each gauge bar being spaced from the foot and pivotably secured to said pin, a flange on each gauge bar extending toward the foot, a shoulder on each end of the cylinder cooperating with each of the flanges for limiting the pivoting movement of said gauge bars, tabs on each gauge bar extending in a direction away from the foot, and a plurality of aligned holes in said foot.

2. The structure as set forth in claim 1 wherein said plurality of aligned holes includes a hole in said foot intermediate the insteps thereof, a notch on one instep, and a notch on the other instep, the axes of said notches and said hole being in a line perpendicular to the axis of said foot.

3. The structure as set forth in claim 1 including a spring surrounding the pin on each side of the cylinder, each spring extending between one face of the cylinder and the adjacent gauge bar.

References Cited in the file of this patent

UNITED STATES PATENTS

488,073	Iversen	Dec. 13, 1892
1,918,643	Heck	July 18, 1933
1,943,203	Chudner	Jan. 9, 1934
2,671,422	Tamburro	Mar. 9, 1954

FOREIGN PATENTS

168,486	Austria	June 11, 1951